Fairview Microwave
an INFINITE brand

FMAT8008
DATA SHEET

0 to 31 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step SMA Female to SMA Female from 100 MHz to 40 GHz

The FMAT8008 is a ultra wide band 5 Bit Solid State Programmable Attenuator which operates over the frequency range of 100 MHz to 40 GHz. The 50 ohm design supports TTL control logic and has an attenuation range that covers 0 to 31 dB in 1 dB steps. Attenuation steps are 1, 2, 4, 8, and 16 dB. Insertion loss is 6 dB typical with a maximum RF input power of +25 dBm. Addtional typcial performance includes +/- 2.5 dB attenuation accuracy and switching speed of 200 nsec. Operational tempeature range is -40°C to +85°C, and the design requires two DC supplies, +5 Vdc and -5Vdc, both at 10 mA nominal . The compact and rugged package design supports 2.92mm female RF input/output connectors, and a micro D-Sub 9 pin female connector socket for DC and TTL controls.

Electrical Specifications (Values at 25°C, sea level)

Description	Min	Typ	Max	Unit
Frequency Range	0.1		40	GHz
Impedance		50		Ohms
Insertion Loss		6	9	dB
VSWR		1.7:1		
DC Voltage		+5		Vdc
DC Current		10		mA
Accuracy of Attenuation DC Voltage not allowed on RF connectors				dB
TTL Low for Thru Path		+2 to +5		Vdc
TTL High for Attenuation		+0 to +0.8		Vdc
Step Size	1			dB
Switching Time		200	500	ns

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Freq. Range	0.1-0.1	0.1-18	18-33	33-40		GHz
Insertion Loss, Typ	3.5	5	6.8	8.5		dB
VSWR, Max	1.8	1.8	2	2.4		
VSWR, Typ	1.5	1.6	1.8	1.9		

Electrical Specification Notes:
1, 2, 4, 8, 16 dB bit Attenuation Steps, Guaranteed Monotonic, DC Voltage not allowed on RF Connectors

Features:

- Ultra Wide Band 5 Bit Solid State Programmable Attenuator
- Frequency Range 100 MHz to 40 GHz
- Attenuation Range: 0 to 31 dB in 1 dB steps
- Attenuation Steps: 1, 2, 4, 8, 16 dB
- Insertion Loss 6 dB typ
- Attenuation Accuracy +/- 2.5 dB typ
- Swtiching Speed 200 nsec typ
- Max RF Input Power +25 dBm
- DC Voltage +5 Vdc
- DC Current 10 mA typ
- 50 Ohm Design
- -40°C to +85°C Operating Temperature
- SMA Female Connectors
- Micro D-Sub 9 Pin Female Connector for DC and TTL controls
- Rugged Mil Grade Package Design

Applications:

- Military & Commercial Communication Systems
- Microwave Radio Systems
- Radar Systems
- Test & Measurement
- Research & Development
- RF Wideband Front Ends

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sales@fairviewmicrowave.com

Absolute Maximum Rating

Description	Min	Typ	Max	Units
RF Input Power (Average)			+20	dBm
RF Input Power (0.1 dB Compression)			+25	dBm

Accuracy of Attenuation	Frequency	Maximum
1-10 dB	0.1-18 GHz	± 0.75 dB
	18-40 GHz	± 1.00 dB
11-15 dB	0.1-18 Ghz	± 1.00 dB
	18-40 GHz	± 1.50 dB
16-23 dB	0.1-18 GHz	± 1.50 dB
	18-40 GHz	± 2.00 dB
24-31 dB	0.1-18 GHz	± 2.00 dB
	18-33 GHz	± 3.00 dB
	33-40 GHz	± 4.00 dB

Mechanical Specifications

Size

Connector 1	SMA Female
Connector 2	SMA Female

Environmental Specifications

Temperature

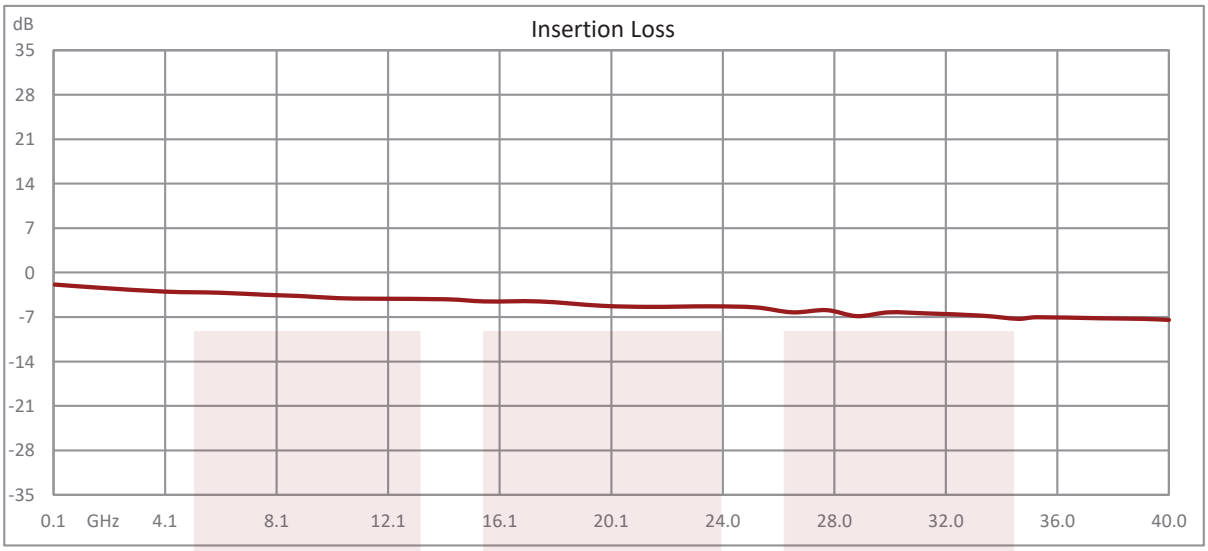
Operating Range	-40 to +85 deg C

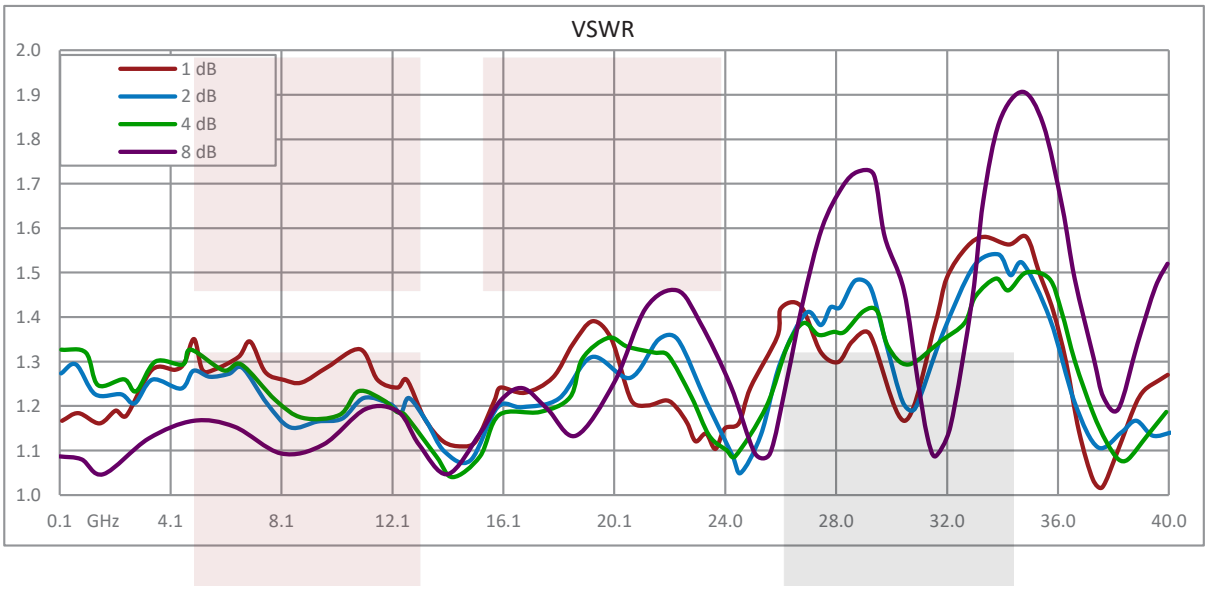
Compliance Certifications (see product page for current document)

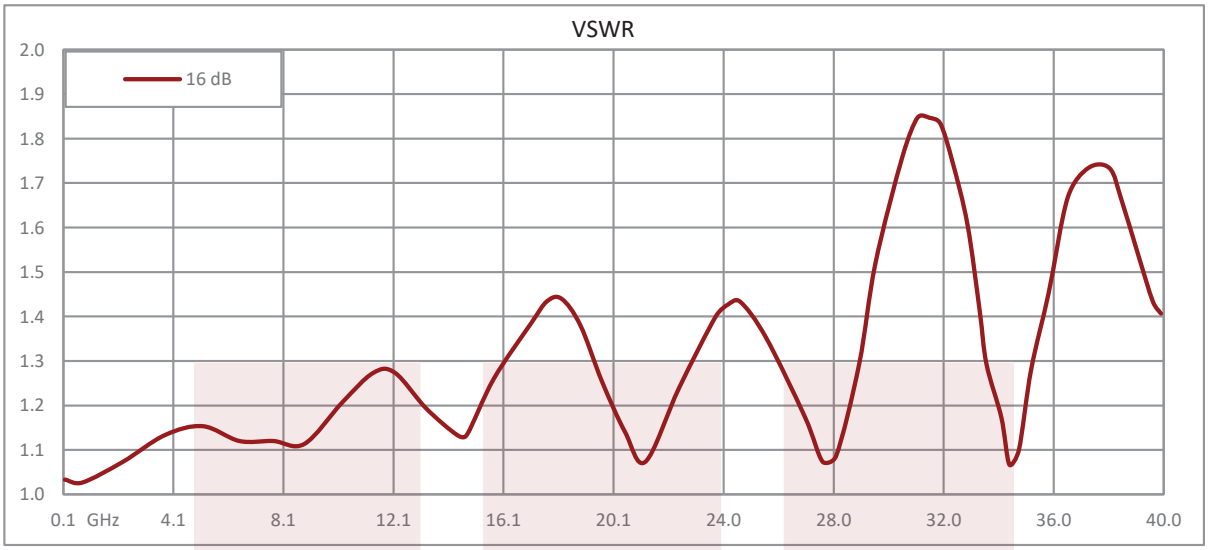
Plotted and Other Data

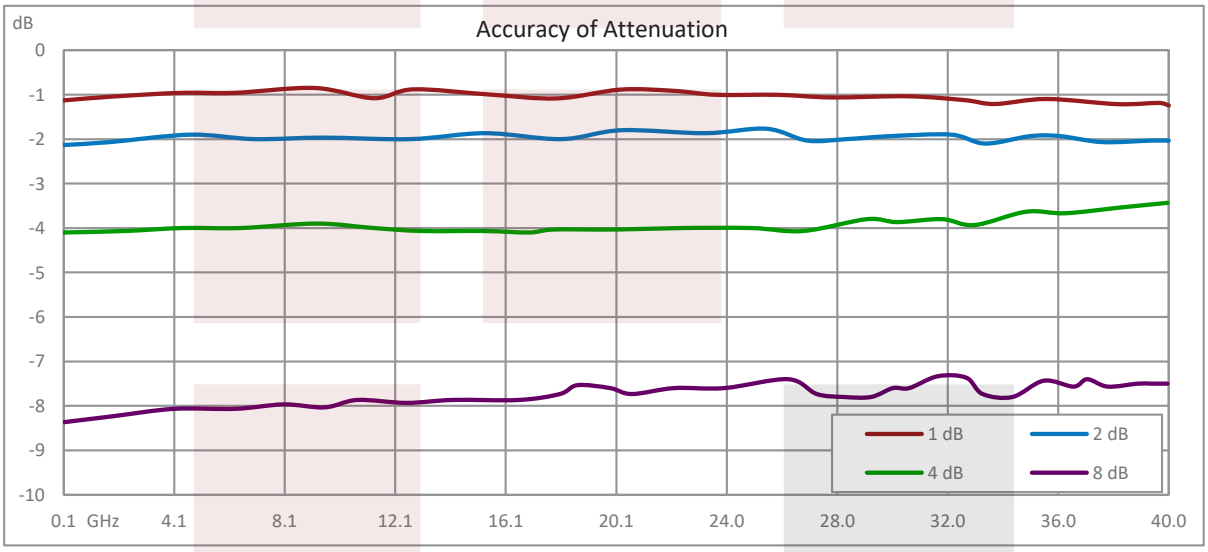
Notes:

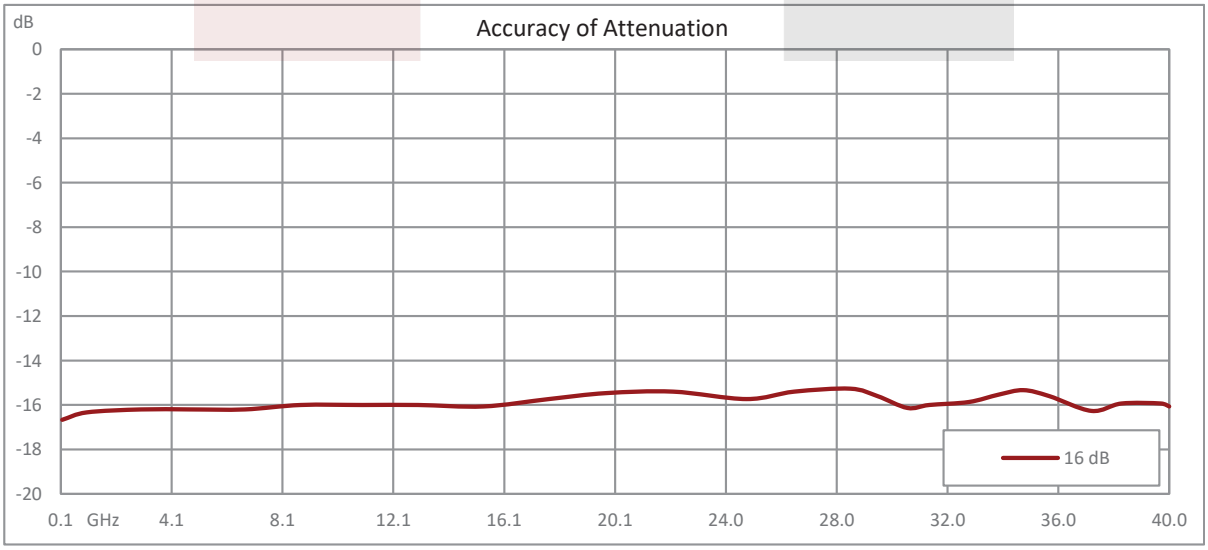
Typical Performance Data











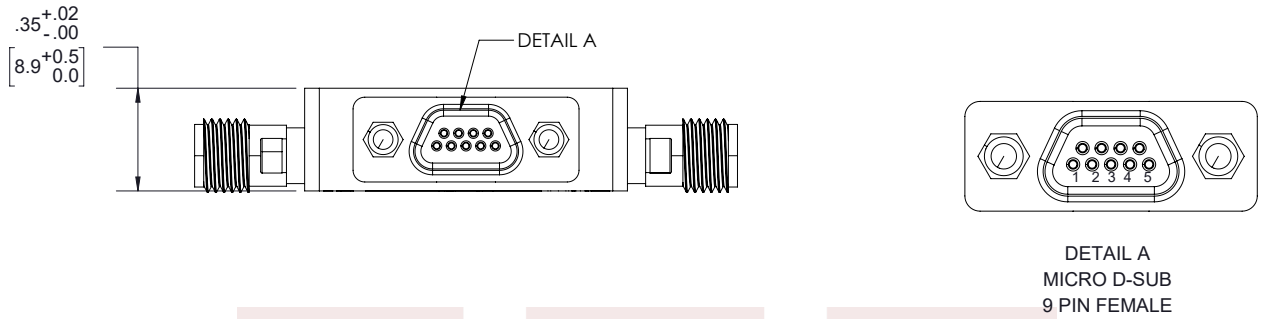
301 Leora Ln., Suite 100, Lewisville, TX 75056 | Tel: 1-800-715-4396 / (972) 649-6678 / Fax: (972) 649-6689

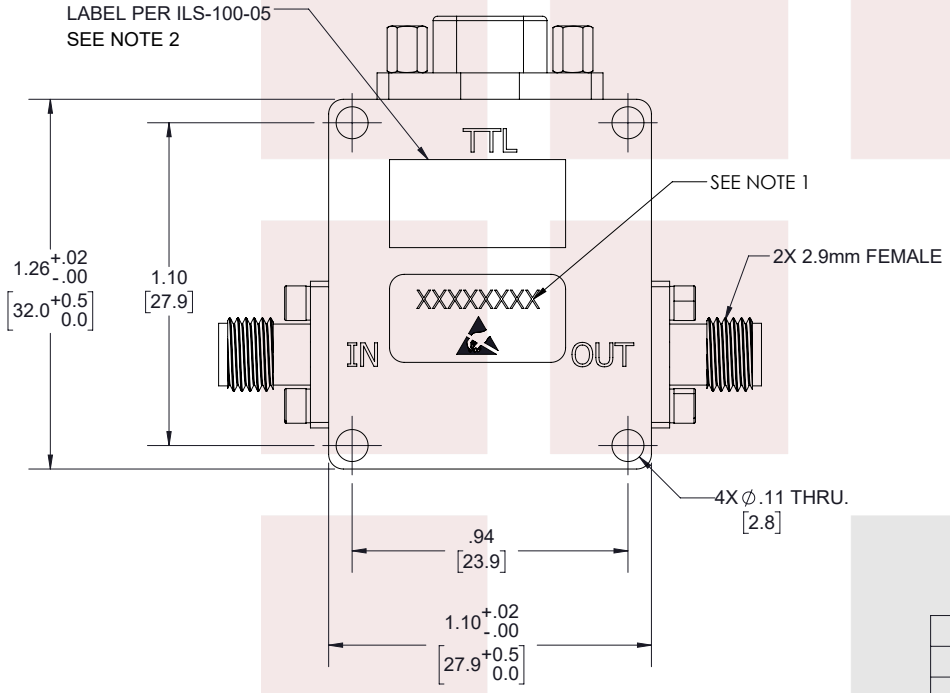
0 to 31 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step SMA Female to SMA Female from 100 MHz to 40 GHz from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

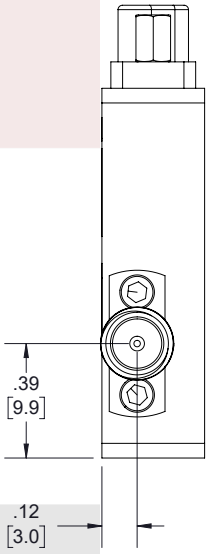
For additional information on this product, please click the following link: 0 to 31 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step SMA Female to SMA Female from 100 MHz to 40 GHz FMAT8008

URL: https://www.fairviewmicrowave.com/0-to-31-db-programmable-ttl-controlled-step-attenuator-with-a-1-db-step-sma-female-to-sma-female-from-100-mhz-to-40-ghz-fmat8008-p.aspx

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	14-08-2021	TGALLA







PIN	FUNCTION
1	+5Vdc
2	-5Vdc
3	GND
4	C1
5	C2
6	C3
7	C4
8	C5
9	N/C

NOTES:

1. SERIAL NUMBER AND DATE CODE ARE COMBINED. EX: 202008280001.
2. LABEL PER ILS-100-05. FOR INTERNAL REFERENCE ONLY.
   LABEL LOCATION SHOULD BE SAME AS SHOWN.

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TITLE

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UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:

.X = ±.2 [5.08]
.XX = ±.02 [.51]
.XXX = ±.005 [.13]
FRACTIONS ± 1/32
ANGLES ± 1°

CABLE LENGTH (L) TOLERANCES:

L ≤ 12 [305] = +1 [25] / -0
12 [305] < L ≤ 60 [1524] = +2 [51] / -0
60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION

SHEET 1 OF 1

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE N/A

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	3FKR5	MVEERAPPAN	FMAT8008	A

T-Rev.D